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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,286	03/17/2004	Chih-Feng Sung	250122-1430	3621

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EXAMINER	
SHAPIRO, LEONID	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,286	SUNG ET AL.	
	Examiner	Art Unit	
	Leonid Shapiro	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *9-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1,4-5,8,17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nathan et al. (US 2006/0027807 A1) in view of Burroughes et al. (US 2005/0001540 A1).

As to claim 1, Nathan et al. teaches a pixel structure of an active matrix organic light emitting diode (OLED) display (paragraph 0002), comprising:

a first transistor having a gate terminal coupled to a scan signal and a drain terminal coupled to a data signal, the first transistor switching the transmission of the data signal according to the scan signal (fig.5A, item T1, paragraph 0035);

a storage capacitor having two terminals coupled to a source terminal of the first transistor and a reference node, the reference node having a second voltage (fig.5A, item Cs, paragraph 0035);

a second transistor having a gate terminal coupled to the source terminal of the first transistor and a source terminal coupled to the reference node; and an OLED having a cathode coupled to a drain terminal of the second transistor and an anode coupled to a first voltage exceeding the second voltage (fig.5A, items OLED, T2, paragraph 0035);

wherein the first transistor or the second transistor is an amorphous silicon thin

film transistor (a-Si TFT) (paragraph 0042).

Nathan et al. does not disclose light efficiency of the OLED is no less than 11 cd/A.

Burroughes et al. teaches light efficiency of the OLED is no less than 11 cd/A (fig. 4, items E-H, paragraph 0053).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Burroughes et al. into Nathan et al. system in order to increase the peak efficiency (paragraph 0053 in the Burroughes et al. reference).

As to claim 5, Nathan et al. teaches an active matrix organic light emitting diode (OLED) display (paragraph 0002, 004-006), comprising:

a panel, comprising a plurality of pixels (paragraphs 0002), each pixel comprising a first transistor having a gate terminal coupled to a scan signal and a drain terminal coupled to a data signal, the first transistor switching the transmission of the data signal according to the scan signal (fig.5A, item T1, paragraph 0035); a storage capacitor having two terminals coupled to a source terminal of the first transistor and a reference node, the reference node having a second voltage (fig.5A, item Cs, paragraph 0035); a second transistor having a gate terminal coupled to the source terminal of the first transistor and a source terminal coupled to the reference node; and an OLED having a cathode coupled to a drain terminal of the second transistor and an anode coupled to a first voltage exceeding the second voltage (fig.5A, items OLED, T2, paragraph 0035); wherein the first transistor or the second transistor is an amorphous silicon thin film transistor (a-Si TFT) (paragraph 0042).

Nathan et al. does not disclose light efficiency of the OLED is no less than 11 cd/A.

Burroughes et al. teaches light efficiency of the OLED is no less than 11 cd/A (fig. 4, items E-H, paragraph 0053).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Burroughes et al. into Nathan et al. system in order to increase the peak efficiency (paragraph 0053 in the Burroughes et al. reference).

As to claim 17, Nathan et al. teaches a pixel structure of an active matrix organic light emitting diode (OLED) display (paragraph 0002), comprising:

a first transistor having a gate terminal coupled to a scan signal and a drain terminal coupled to a data signal, the first transistor switching the transmission of the data signal according to the scan signal (fig.5A, item T1, paragraph 0035);

a storage capacitor having two terminals coupled to a source terminal of the first transistor and a reference node, the reference node having a second voltage (fig.5A, item Cs, paragraph 0035);

a second transistor having a gate terminal coupled to the source terminal of the first transistor and a source terminal coupled to the reference node (fig.5A, item T2, paragraph 0035); and

an OLED coupled to the second transistor (fig.5A, items OLED, T2, paragraph 0035);

wherein the first transistor or the second transistor is an amorphous silicon thin film transistor (a-Si TFT) (paragraph 0042).

Nathan et al. does not disclose light efficiency of the OLED is no less than 11 cd/A.

Burroughes et al. teaches light efficiency of the OLED is no less than 11 cd/A (fig. 4, items E-H, paragraph 0053).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Burroughes et al. into Nathan et al. system in order to increase the peak efficiency (paragraph 0053 in the Burroughes et al. reference).

As to claim 18, Nathan et al. teaches the second transistor having a source terminal coupled to the reference node, and the OLED having a cathode coupled to a drain terminal of the second transistor and an anode coupled to a first voltage exceeding the second voltage (fig. 5A,items T2, OLED, Vsupply).

As to claims 4,8,19, Nathan et al. teaches the second voltage is ground (fig. 5A).

2. Claims 2,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nathan et al. and Burroughes et al. as applied to claims 1,5 above, and further in view of Hatwar (US 6,627,333 B2).

Nathan et al. and Burroughes et al. do not disclose the OLED is made of C545T.

Hatwar teaches the OLED is made of C545T (fig. 9, col. 12, lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Hatwar into Burroughes et al. and Nathan et al. system in order to produce a full color OLED (col. 11, lines 47-52 in the Hatwar reference).

3. Claims 3,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nathan et al. and Burroughes et al. as applied to claims 1,5 above, and further in view of Thompson et al. (US 2006/0029829 A1).

Nathan et al. and Burroughes et al. do not disclose the OLED is made of Irppy.

Thompson et al. teaches the OLED is made of Irppy (paragraph 0194).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Thompson et al. into Burroughes et al. and Nathan et al. system in order to increase an efficiency of OLED (paragraph 0048 in the Thompson et al. reference).

Telephone Inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS
03.20.07

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECH... ...2600